

# Universal Design for Learning

**Universal Design for Learning (UDL)** is a set of principles designed to guide curriculum and lesson development, ensuring that all students have equal opportunities to learn and can quickly engage with the instruction.

## Flexibility in Representation

- options for perception
- options for language and symbols
- options for comprehension

## Flexibility in Expression

- options for physical action
- options for expressive skills/fluency
- options for executive functions (planning/monitoring)

## Flexibility in Engagement

- options for recruiting interest
- options for sustaining effort/persistence
- options for self-regulation

Adapted from <http://bit.ly/HkaWU5>

National UDL Center <http://www.udlcenter.org/>

CAST Learning Tools <http://bit.ly/17IFtNm>

UDL Wheel <http://bit.ly/1bcPQPX>



1. **Recognition Networks** – How we recognize information and categorize what we see, hear, and read. For example, students can **change the font size** of the reading material, use tools to **change the format** (e.g. from text to audio, or to braille), change the background colors, etc. **Online glossaries or dictionaries** are available to support vocabulary. **Translation tools** are provided to support multiple languages. **Advance graphic organizers** may be used to help students highlight big ideas, concepts, and relationships.



2. **Strategic Networks** – How we organize and express our ideas; plan and perform tasks. For example, students may **produce a report in an essay format, a PowerPoint format, an audio format, or a movie format**. A variety of support tools may be provided to help **students engage in progress monitoring**; e.g. setting goals and completing assignments on time.



3. **Affective Networks** – How we are challenged, excited, or interested. For example, students can **choose topics and viewpoints** to research. Assignments have a level of **relevance** to each student. **Hands-on activities, robotics, simulations, and immersive virtual worlds** may be used to support STEM instruction. **Collaborative activities** are used to help students connect with and work with others. Time is provided for **self-assessment and reflection** activities.

## Reading Tools - <http://tlc-mtss.wikispaces.com/Reading>



- **Natural Reader** (Win) – <http://www.naturalreaders.com> . a free text-to-speech utility that will read selected text aloud
- **Mercury Reader** - <https://mercury.postlight.com/reader/> . clean up web pages and remove clutter to help make them easier to read
- **Read&Write** (chrome extension) - <http://bit.ly/29YEZkP> . chrome browser extension that provides text-to-speech tools and study tools
- **Read:Outloud** (Win Mac) - <http://www.donjohnston.com/readoutloud/> . reading and study support program that works with web pages, digital files, pdfs
- **Rewordify** (online) – <http://rewordify.com> . tool that simplifies English text
- **Online Text Summarizer** (online) – <http://www.tools4noobs.com/summarize> . type in an URL or paste text and get a summary
- **Newsela** (online) – <https://newsela.com> . provides news on current events at five different lexile levels. you will need to set up an account

## Writing Tools - <http://tlc-mtss.wikispaces.com/Writing>



- **Free Online Graph Paper** (online) – <http://incompetech.com/graphpaper/> . tools for creating a wide assortment of graph papers
- **WriteOnline** - <http://bit.ly/1g6zETJ> . writing tool that includes text-to-speech, word bars, and word prediction. free trial
- **Rationale** (Win) - <https://www.rationaleonline.com/> . guided reasoning and argument diagramming software
- **Science Writer** (online) – <http://sciencewriter.cast.org> . tool to support science writing assignments. you will need to create a free account

## Math Tools - <http://tlc-mtss.wikispaces.com/Math>



- **MoffSoft FreeCalc** (Win) – <http://www.moffsoft.com/freecalc.htm> . basic calculator with adjustable size, colors, and a simulated paper tape display
- **WebMath** (online) - <http://www.webmath.com/> . tool that solves math problems with explanations
- **Illustrations** (online) - <http://illuminations.nctm.org/> . collection of interactive activities and math lessons, e.g. Advanced Data Grapher, Dynamic Paper
- **Glencoe Virtual Manipulatives** - <http://bit.ly/2IYIDA3> . online math tools

## Science Tools - <http://tlc-mtss.wikispaces.com/Science>



- **Education Place** (online) - <http://www.eduplace.com/kids/hmsc/> . collection of science resources and simulations from Houghton Mifflin
- **LearningScience** (online) - <http://www.learningscience.org/> . learning community for sharing newer and emerging tools to teach science
- **Windows to the Universe** (online) - <http://www.windows2universe.org> . content lessons on our planet, solar system, and the universe with leveled text in English or Spanish
- **NSF Multimedia Gallery** (online) - <http://1.usa.gov/22eECat> . collection of science images, video, audio, and more
- **Science Buddies** (online) - <http://www.sciencebuddies.org/> . science fair project ideas, answers, and tools